IN THE CLAIMS

Please amend the claims to read as follows:

Listing of Claims

1-21. (Canceled).

22. (New) A method of transmitting data in a wireless communication system from a transmitter to a receiver, the method comprising:

modulating data at the transmitter using a first modulation scheme to obtain a first data symbol, the first modulation scheme being a higher order modulation scheme and the data bits mapped onto the data symbols have different bit reliabilities depending on the chosen modulation scheme;

transmitting the first data symbol to the receiver over a first diversity branch;

modulating said data at the transmitter using a second modulation scheme to obtain a second data symbol;

transmitting the second data symbol to the receiver over a second diversity branch;

demodulating the received first and second data symbols at the receiver using first and second demodulation schemes

corresponding to the first and second modulation schemes, respectively; and

diversity combining the demodulated data, wherein:

the first and second modulation schemes for the first and second diversity branches are selected such that after combining the data bits, the differences among the combined bit reliabilities are reduced.

23. (New) The method according to claim 22, wherein the data to be transmitted contains at least one data packet comprising a plurality of data bits which are encoded using a forward error correction (FEC) scheme prior to modulation.

24. (New) The method according to claim 23, wherein the FEC encoding scheme is a Turbo coding scheme.

25. (New) The method according to claim 22, wherein the modulation schemes are M-ary schemes and the number of different modulation schemes is equal to log2 (M).

26. (New) The method according to claim 22, wherein the data for transmission is modulated using a single redundancy version scheme with an identical data bit sequence.

27. (New) The method according to claim 22, wherein the data for transmission is modulated using a multiple redundancy version scheme of partly identical bits.

28. (New) The method according to claim 22, wherein first and second signal constellation patterns defining the first and second modulation schemes are pre-stored in a memory table.

29. (New) The method according to claim 28, wherein the first and second signal constellation patterns are signaled to the receiver.

30. (New) The method according to claim 28 or 29, wherein the properties of the first and second signal constellation patterns are obtained by:

(a) interleaving the positions of the bits mapped onto the signal constellation patterns, or

(b) inverting the bit values of the bits mapped onto the signal constellation patterns.

31. (New) The method according to claim 30, wherein the interleaving is performed with symbols resulting in an intra-symbol interleaving.

32. (New) The method according to claim 22 wherein the data is transmitted with a plurality of redundancy versions, and the transmitted bits comprise systematic and parity bits and the systematic bits are included in each redundancy version.

33. (New) The method according to claim 32, wherein the combined mean bit reliabilities for the systematic bits are higher than that of the parity bits.

34. (New) A transmitter for transmitting data in a wireless communication system to a receiver, the transmitter comprising:

a mapping unit that modulates data using a first modulation scheme to obtain a first data symbol, the first modulation scheme being a higher order modulation scheme and the data bits mapped onto the data symbols have different bit reliabilities depending on the chosen modulation scheme;

a transmitting unit that transmits the first data symbol to the receiver using a first diversity branch;

said mapping unit modulates said data using a second modulation scheme to obtain a second data symbol; and

said transmitting unit transmits the second data symbol to the receiver using a second diversity branch, wherein:

the first and second modulation schemes for the first and second diversity branches are selected such that after combining the data bits, the differences among the combined bit reliabilities are reduced.

35. (New) The transmitter according to claim 34, further comprising a table component that pre-stores first and second signal constellation patterns defining the first and second modulation schemes.

36. (New) The transmitter according to claim 35, further comprising an interleaver or inverter to obtain different signal constellation patterns.

37. (New) The transmitter according to claim 34, further comprising a forward error correction (FEC) encoder for encoding the data prior to modulation.

38. (New) A receiver as part of a wireless communication system, the receiver comprising:

a receiver component that receives first and second data symbols that are respectively modulated using first and second modulation schemes and transmitted over first and second

diversity branches, the employed modulation schemes being higher order modulation schemes and the data bits mapped onto the data symbols have different bit reliabilities depending on the chosen modulation scheme;

a demapping unit that demodulates the received first and second data symbols using first and second demodulation schemes, corresponding to the first and second modulation schemes respectively; and

a combining unit that diversity combines the received data symbols, wherein:

the first and second modulation schemes for the first and second diversity branches are selected such that after combining the data bits, the differences among the combined bit reliabilities are reduced.

39. (New) The receiver according to claim 38, further comprising a memory that stores received data prior to combining same.

40. (New) The receiver according to claim 38 or 39, further comprising a forward error correction (FEC) decoder for decoding the combined first and second data after diversity combining.